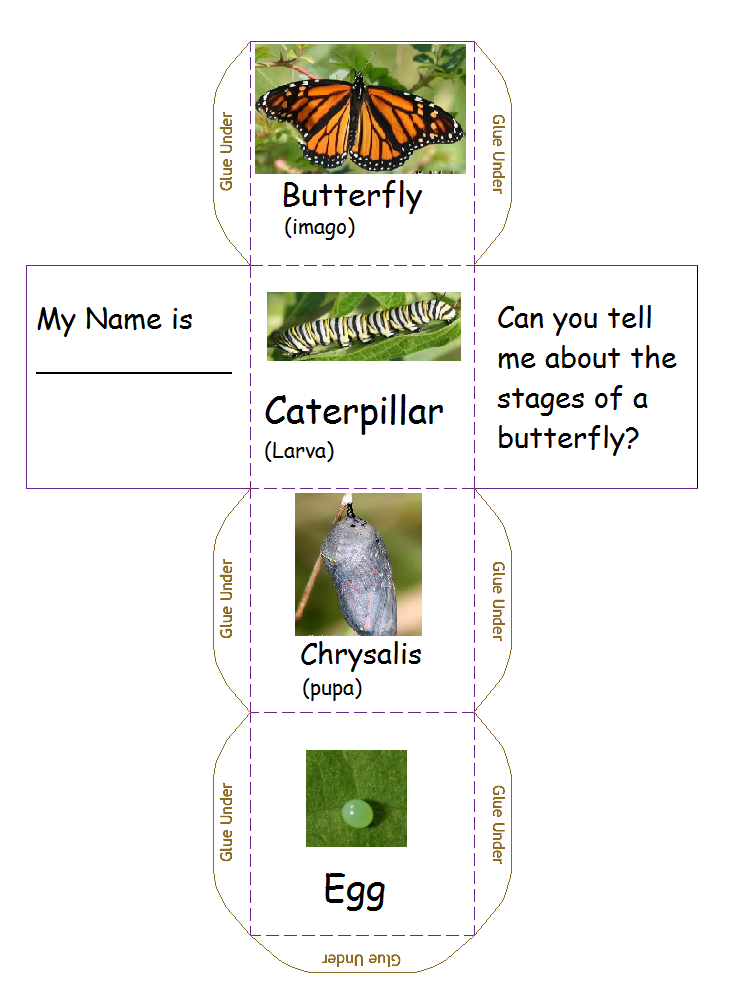
Tennessee Tech University  
Lesson Plan Template

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| **Name:** Haley Sharp and Morgan Sellers  **Date:** April 1, 2013 **Lesson Title:** Life Cycle of a Butterfly **Grade/Level:** 2nd Grade |
| **Curriculum Standards** |
| **Science:**  GLE 0207.4.1 Compare the life cycles of various organisms.  0207.4.2 Sequence a collection of pictures or illustrations into the correct stages of an organism’s life cycle.  **Technology:**  2.1.1. Students will demonstrate an understanding of the nature and operation of technology systems.  **Language Arts:**  2.W.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide |
| **Focus Questions/Big Idea/Goal (List all 3)** |
| ***What question(s), big idea(s), and goals drive your instruction?***  Question: What are the different stages of a butterfly's life?  Big Idea: The four stages of the life cycle are the egg, the caterpillar, the chrysalis, and the butterfly.  Goals: Students will be able to discuss and sequence the life of a butterfly. Students will be able to compare and contrast different organisms’ life cycles. |
| **Lesson Objective(s)** |
| ***Objectives are measurable.***  I can sequence and discuss the life cycle of a butterfly. |
| **Vocabulary/ Academic Language** |
| ***What opportunities will you provide for students to practice content language/vocabulary and develop fluency*?**  Students will be able to learn key vocabulary that will be necessary for this particular lesson. They will use the vocabulary to complete the activities as well as the final assessment.   * Egg- a roundish body covered with a shell or membrane * Larva (caterpillar)- the early form of any animal which during its development is unlike its parent * Pupa (chrysalis)- the chrysalis form of an insect * Butterfly- in their last fully developed state, have four wings often decked with the most beautiful colors and a suctorial mouth * Life Cycle- a series of activities including development, changes of environment, dormancy and return to original status; experienced by various organisms * Metamorphosis- denoting change, change of form, shape, or structure, what an animal undergoes after it’s exclusion from the egg, and which alters the general form and life of the individual |
| **Material/Resources** |
| ***What do you need for this lesson?***   * Butterfly cube * *Waiting for Wings,* By: Lois Ehlert * Paper plates * Mini marshmallows * Gummy worms * Tootsie Rolls * Butterfly Crackers * iPads * Life Cycles for Kids app by Rishi Chibber * Live Butterfly Garden Real Butterfly Hatching Kit app by Insect Lore * Butterfly Journal: to be used as a form of assessment for students to complete as they learn the life cycle from the apps. |
| **Assessment/Evaluation** |
| **Formative*: How will students demonstrate understanding of lesson objective(s)? How will you monitor and/or give feedback?***  Students will demonstrate understanding by building a model of a butterfly’s life cycle.  **Summative: *What evidence will you collect and how will it document student learning/mastery of lesson objective(s)***  Following this, students will use iPads to grow butterflies, and write in a butterfly journal. The students will complete them individually as they learn the steps of the life cycle from the iPad apps they will be using.  Students will also close the lesson with a quick assessment so the teacher can conclude whether they comprehended the instruction and information being taught. They will correctly number the butterfly cube in the order of the life cycle of the butterfly. They will complete this independently for the teacher to assess. |

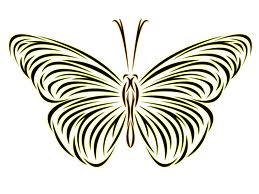
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| **Instruction**  **(Include a suggested time for each major activity)** | **List Questions for higher order thinking *These cannot be answered by yes or no.***  **(Identify Bloom’s Level of Thinking)** |
| **Set/Motivator: *How will you engage student interest in the content of the lesson? Use knowledge of students’ academic, social, and cultural characteristics.***  **Butterfly Cube: (5-10 minutes)**  Students will cut out and put together a butterfly cube. This cube will be used as a pre-assessment. Student will use the butterfly cube to answer the teacher’s questions in a nonverbal form.  **Read Book: (10 minutes)**  Following the pre-assessment the teacher will read *Waiting for Wings,* By Lois Ehlert | **Bloom’s Taxonomy:**  Level 1: Which picture on the cube represents the first (second, third, fourth) stage of a butterfly’s life?  Level III: Explain the different stages of a butterfly’s life.  Level IV: What is the function of a butterfly’s wings?  Level V: How can you compare a butterfly life cycle and a human life cycle? |
| **Instructional Procedures/Learning Tasks: *Provide specific resources/details of lesson content and delivery.***  **Edible Model: (10-15 minutes)**  Students will make an edible model of a butterfly’s life cycle by modeling what the teacher does at the front of the class The teacher will explain each step of the life cycle and then ask the class what step they think comes next. This will continue on until they have successfully labeled every step with the appropriate edible item. For further understanding, or struggling students the iPad application Life Cycles for Kids is available.  **iPad App: (10-15 minutes)**  Students will grow his or her own butterflies using Live Butterfly Garden iPad application. | Level II: Tell what each part of the butterfly life model represents.  Level III: Explain the different stages of a butterfly’s life.  Level V: How can you compare a butterfly life cycle and a human life cycle?  Level VI: Make a model of a butterfly’s life. |
| **Closure: *Verbalize or demonstrate learning or skill one more time. May state future learning. (10 minutes)***  The class will have a group discussion about what was observed during the use of the Insect Lore iPad application by resourcing their journal entries about what they observed. The teacher will encourage students to use proper terms for the different stages of a butterfly’s life. The teacher will state that the next lesson will cover the life cycle of a frog, and tell the class that they should be looking for similarities and differences between a butterfly life cycle and the frog life cycle. The Life Cycles for Kids iPad application will be used for the following lesson.  Students will then go back to the butterfly cycle cube activity they previously made. The teacher will assess that they grasped the knowledge by having them correctly number the order of the butterfly’s life. |  |

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| **Adaptations to Meet Individual Needs: *How will you adapt the instruction to meet the needs of individual students? Include -***  ***ELL?; SPED?; Gardner’s Learning Styles - Name and specify what happens in the lesson that uses each learning style listed; Other individual needs of the students/class you are teaching?***  This lesson is excellent for ELLs due to the amount of nonverbal representations. Modifications needed for ELLs may be needed during the class discussion. The ELLs may need to use visual representatives to express understanding.  Howard Gardner’s Multiple Intelligence:  Linguistic Intelligence: Students will be writing in the butterfly journal, and sharing new knowledge with the class.  Spatial Intelligence: Students will provide a drawing of each stage of a butterfly’s life.  Interpersonal Intelligence: Students will work on journals individually showing they have comprehended the material.  Kinesthetic: Students will complete the foldable butterfly life cycle cube and also an edible model.  **Management/Safety Issues: *Are there any management and/or safety issues that need to be considered when teaching this lesson?***  There are several safety and management issues that would need to be discussed with the students. Students will need to be reminded of scissor safety. Students will need to be given the guidelines for making the edible butterfly life cycle. At this point the teacher will address any food allergies and enlist rules accordingly. Lastly, students will need to be aware of rules for working on the iPad. They will be told to stay on the one application. This will allow them to stay focused and not stray to other things on the iPad. |
| **Rationale/Theoretical Reasoning:**    This lesson allows students to explore the life cycle of a butterfly in several ways, including; literature, self-made models, technology, and communication. By providing different types of learning, several types of intelligence can be expressed. According to Howard Gardner, each individual has seven measurable forms of intelligence. Each individual will have strengths and weaknesses; therefore, a lesson should not focus solely on one type intelligence.  In addition, the lesson provides a hands on experience through manipulatives and technology. John Dewey’s theory, learning by doing, stresses the importance of learning through experience. Activities should be meaningful and connected to real life situations. The lesson provides students the chance to make models, make observations, writing observations, and communicate ideas.  Jerome Bruner’s Constructivist Theory states that individuals construct knowledge by comparing new ideas with previous knowledge. This lesson builds on students’ previous knowledge of butterflies, and concludes with a class discussion. This class discussion helps students verbally express the new knowledge, while obtaining knowledge from peers.  Lastly, Marzano’s Essential 9 strategies are ways to show that student comprehension can be boiled down to a few strategies. One of the strategies is “Identifying similarities and differences (Yields a 45 percentile gain).” This is shown in our lesson by having the students compare the butterfly life cycle to their own as well as the frogs in our lesson extension. |
| **References:  *List the references used in this lesson***  **Edible Butterfly Life Cycle:**  [*http://mylittleyellowroom.blogspot.com/2012/04/edible-butterfly-life-cycle.html*](http://mylittleyellowroom.blogspot.com/2012/04/edible-butterfly-life-cycle.html)  **Butterfly photos for Butterfly Cube:**  <http://www.kidsbutterfly.org/life-cycle>  **Butterfly Cube:**  -Created in paint by Haley  **Book:**  Waiting for Wings By: Lois Ehlert  **Applications:**  Life Cycles for Kids app by Rishi Chibber  Live Butterfly Garden Real Butterfly Hatching Kit app by Insect Lore  **Vocabulary:**  Webster Dictionary of the English Language |
| **Reflections/Future Modifications: *To what extent did the class learn what you intended them to learn? What will be your next steps instructionally? What did you learn about your students as learners? What have you learned about yourself as a teacher?***  **Morgan:** I thought our lesson was one that could easily be converted to any classroom setting. I feel confident that a random teacher could pick up our lesson plan and feel comfortable adapting it in a way to meet his or her classroom needs. This lesson is one that will work with all types of learners in a classroom. It can easily be a lesson that can be altered to work in groups if necessary. If I were to change anything it would involve the use of the iPad. In all honestly not every classroom will have an iPad to use with their students. That is not something that is realistic in all classrooms. If an iPad was not available I would suggest maybe a short yet fun video that also explains the life cycle to students.  **Haley:**  Overall the lesson was easily adapted to all the different students. The lesson covered the needs of beginning learners, and was easily adapted as a review for older students. Having the stem night helped me realize that each child will have a different educational background, and may need more or less instruction to meet the goal. This lesson in a second grade classroom may be a full lesson, or a review lesson depending on students’ prior knowledge. If this lesson is used as a review it would be important to have the follow up lesson ready. The following lesson will cover the life cycle of a frog and students will compare and contrast the two different life cycles. Although time would not allow during the stem night, I would like to complete the editable butterfly life cycle model during the reading. Following the reading I would like to use the iPad application for further understanding. To wrap up the lesson I would like the students to number his or her butterfly cube so show that the student has mastered the ability to sequence a butterfly’s life cycle. The students that participated in the butterfly lesson left with a better understanding of a butterfly’s life cycle, and 90% of the students would have mastered the objective. |



My Butterfly Journal

By:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



My Butterfly’s Name is\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Stage One:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write a sentence or two about this stage.

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Draw a picture below of the first stage of a butterfly’s life.

Stage 2:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write a sentence or two about this stage.

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Draw a picture below of the second stage of a butterfly’s life.

Stage 3:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write a sentence or two about this stage.

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Draw a picture below of the third stage of a butterfly’s life.

Stage 4:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Write a sentence or two about this stage.

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Draw a picture below of the fourth stage of a butterfly’s life.